

AMENDMENT TO THE ABSTRACT

The following substitute abstract will replace all prior versions of the abstract in the application:

Two all pass ~~filters~~filters (11, 12) with 90° phase-shifted different center frequencies are employed to pass an alternating signal S with jitters in the period to generate signals, S1 and S2, 90° phase-shifted from each other. A pulse generator (22) generates a sampling pulse Sp by detecting a zero cross point of the phase-shifted signal S2. A full-wave rectifier (21) rectifies full waves of the phase-shifted signal S1 and provides a rectified output to a sampling circuit (23), which extracts a peak value of the amplitude at the timing of the sampling pulse Sp.